

## REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on September 26, 2007. A petition for a one month extension of time is submitted herewith. The Director is authorized to charge \$120.00 for the one month petition for extension of time or any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112701-753 on the account statement.

Claims 1-21 are pending in this application. Claims 9-11, and 15-19 were previously withdrawn from consideration. In the Office Action, the oath or declaration is objected to. Claim 1 is also objected to. Claims 1-8, 12-14 and 20-21 are rejected under 35 U.S.C. § 103. In response, Applicants have amended Claims 1-6, 8, 12-14, and 20-21. The amendments do not add new matter. In view of the amendments and for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, the declaration is objected to because, as the Examiner alleges, one of the inventors did not sign the oath. See, Office Action, page 2, lines 16. However, Applicants respectfully submit that the declaration was signed by all five named inventors. Attached hereto as Exhibit A is a copy of the declaration signed by all five named inventors and a copy of the Power of Attorney executed by the assignee of record. Therefore, Applicants respectfully submit that the previously submitted declaration attached hereto as Exhibit A is in full compliance with 37 CFR 1.67(a).

Accordingly, Applicants respectfully request that the objection to the declaration be withdrawn.

In the Office Action, Claim 1 is objected to for reasons of informality. Specifically, Claim 1 is objected to for allegedly containing incorrect grammar in the portion of the Claim that reads “a carrier selected from the group consisting of milk and milk protein-containing.” See, Office Action, page 3, lines 1-3. In response, Applicants have amended Claim 1 to recite, in part, “a carrier selected from the group consisting of milk, a milk protein-containing carrier, and combinations thereof.” The amendment does not add new matter. The amendment is supported in the specification at, for example, page 5, lines 21-24. As amended, Applicants respectfully submit that any alleged incorrect grammar in Claim 1 has been corrected.

Accordingly, Applicants respectfully request that the objection to Claim 1 be withdrawn.

In the Office Action, Claims 1-8, 12-14, 20 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,925,394 to Levinson (“*Levinson*”) in view of U.S. Patent No. 7,108,887 to Chu et al. (“*Chu*”). For at least the reasons set forth below, Applicants respectfully submit that the rejection is improper and should be withdrawn.

Independent Claims 1, 12 and 14 recite, in part, compositions comprising at least essential lipophilic and hydrophilic bioactive components of a material selected from the group consisting of whole fruit, vegetable and plant material, excluding insoluble fibers, in a carrier selected from the group consisting of milk, milk protein-containing carriers and combinations thereof. As such, the present invention is directed toward a composition wherein milk is used as a solvent for the extraction of both hydrophilic and hydrophobic molecules. By using milk or milk proteins, soy-milk or milk-like proteins from plants for extracting and delivering the multi-nutrients of functional ingredients of a fruit, a vegetable and/or a plant material, the present invention provides a composition having increased miscibility or dispersibility in an aqueous system, stability, and bioavailability of bioactive compounds. The composition of the present invention has the major advantage that the composition is natural, has improved delivery of multi-nutrients in the form of a combination of stabilized water- and fat-soluble compounds, and is free of organic solvent residues. See, specification, page 2, lines 22-28; page 4, lines 1-10. Therefore, Applicants have identified the advantages of an extraction technique that is both natural and can provide improved stability, miscibility, dispersibility in aqueous systems and enhanced bioavailability of the bioactive compounds.

In contrast, the specification clearly identifies the deficiencies of the prior art with respect to the presently claimed invention. For example, the specification identifies several extraction techniques for extracting pigments and bioactive compounds from fruits or plant materials that are less than optimal. Such techniques include, for example, hot water extraction, solvent extraction and other convention extraction techniques. The specification goes on to state that a water extraction, or a hot water extraction, technique is a natural technique, but is not as efficient as compared to the use of a solvent. However, it is known that solvent extraction techniques are more difficult to handle and can impair the natural image and/or nutritional functions of the products. Moreover, conventional extraction techniques usually extract a few compounds of the plant or fruit material, leaving some other bioactive compounds in the rest of the plant or fruit material. See, specification, page 1, line 11-page 2, line 28. Applicants respectfully submit that

the cited references fail to cure the deficiencies of the prior art with respect to the presently claimed invention and that the skilled artisan would have no reason to combine the cited references to arrive at the present claims.

One having ordinary skill would have no reason combine or modify the cited references because both *Levinson* and *Chu* teach away from the claimed invention, as well as the combination of the two references. In this regard, references must be considered as a whole and those portions teaching against or away from each other and/or the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). “A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Applicant.” *Monarch Knitting Machinery Corp. v. Fukuhara Industrial Trading Co., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998), quoting, *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994).

*Levinson* is entirely directed toward denatured protein food products comprising stable foam products and methods for making same. See, *Levinson*, Abstract. Specifically, *Levinson* discloses methods and apparatuses for denaturing and whipping into a useful, stable, high-volume, long lasting foam products (PRO-WHIP) from eggs, milk, meat and blood. See, *Levinson*, col. 3, lines 51-54. In contrast to the present invention, which is directed, in part, toward the delivery of bioactive compounds, the denaturing of the of the milk product of *Levinson* may cause the structure of the proteins to unfold, either with heat, alkali, or acid, so that some of the original properties of the protein, and especially its biological activity, are diminished or eliminated. See, [www.dictionary.com](http://www.dictionary.com), definition of “denature.”

Moreover, any fruit that may be added to the product of *Levinson* is added as a whole and the fibers from the fruit are not filtered out, as is the case with the instant invention. For example, *Levinson* clearly teaches that “fresh bananas, pears, apples, berries and the like” may be added to a PRO-WHIP in sizes comparable to the additives present in strawberry jam and shredded coconut. See, *Levinson*, col. 12, lines 22-35. *Levinson* also teaches that concentrated fresh squeezed orange juice having pulp may be whipped into a PRO-WHIP. See, *Levinson*, col. 18, line 52-col. 19, line 3. Therefore, because *Levinson* is entirely directed toward a high-volume, long-lasting, foam product that denatures the proteins of the product and teaches incorporation of solid portions of fruit pieces into the product, *Levinson* explicitly teaches away

from the presently claimed subject matter, which requires, in part, bioactive compounds in a carrier that is free of insoluble fibers.

Similarly, *Chu* is entirely directed toward a process that removes naturally occurring components that detract from the quality of fruit juice by contacting the juice with an adsorptive resin in order to provide enhanced fruit juice. See, *Chu*, Abstract. Specifically, *Chu* discloses methods for separating a citrus juice source into a permeate liquid and a retentate containing a large percentage of the pulp and other solids present in the citrus juice source. The permeate is then subjected to treatment with an adsorptive resin that reduces levels of less desirable components. See, *Chu*, col. 1, lines 15-25. As such, *Chu* is entirely directed toward the filtration of fibers of a citrus juice and fails to disclose or even mention the use of milk products anywhere in the specification, let alone the use of milk or milk proteins to extract bioactive compounds from fruit or plant material. Therefore, *Chu* is entirely directed toward a method for removing less desirable citrus solids from citrus juice. Because *Chu* is directed entirely toward citrus juices and fails to even mention milk or milk proteins anywhere in the specification, *Chu* also teaches away from the presently claimed subject matter.

Moreover, one having ordinary skill would have no reason combine *Levinson* and *Chu* to arrive at the present invention. As discussed above, *Levinson* is directed entirely toward denatured protein food products comprising stable foam products having solid fruit fibers incorporated into the foam product. See, *Levinson*, col. 3, lines 51-54; col. 12, lines 22-35. In contrast, *Chu* is directed entirely toward the filtration of solids from citrus juices. Neither reference discloses or even recognizes the benefits of a composition wherein milk is used as a solvent for the extraction of both hydrophilic and hydrophobic molecules. Specifically, neither reference discloses or even recognizes that by using milk or milk proteins, soy-milk or milk-like proteins from plants for extracting and delivering the multi-nutrients of functional ingredients of a fruit, a vegetable and/or a plant material, a composition may have increased miscibility or dispersibility in an aqueous system, stability, and bioavailability of bioactive compounds.

Accordingly, Applicants respectfully submit that it is improper to utilize Applicants' recognition of a problem and its solution as a template to recreate the claimed invention. *Monarch Knitting Machinery Corp. v. Fukuhara Industrial Trading Comp., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998). For at least the reasons discussed above, the combination of *Levinson* and *Chu* is improper and fails to render obvious Claims 1-8, 12-14, 20 and 21.

Accordingly, Applicants respectfully request that the rejections of Claims 1-8, 12-14, 20 and 21 under 35 U.S.C. §103 be withdrawn.

Further, Applicants note the Examiner's use of *Borradaile* as allegedly evidencing naringenin as the principal flavonoid in grapefruit, *Lee* as allegedly evidencing that grapefruit contains carotenoid pigments carotene and lycopene, and *Corinstein* as allegedly evidencing that grapefruit contains phenolic and ascorbic acid. See, Office Action, page 4, lines 1-6. However, since the Examiner states that *Borradaile*, *Lee* and *Corinstein* are merely cited to relay an intrinsic property and is not used in the basis for rejection *per se*, Applicants have not addressed these references.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLP

BY 

Robert M. Barrett  
Reg. No. 30,142  
Customer No.: 29157

Dated: January 22, 2008

# EXHIBIT A

**Box No. VIII (iv) DECLARATION: INVENTORSHIP** (only for the purposes of the designation of the United States of America)  
 The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

**Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))  
 for the purposes of the designation of the United States of America:**

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application No. PCT/..... (if furnishing declaration pursuant to Rule 26ter).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications: .. 04006639.1 .. 19.03.2004 ..

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

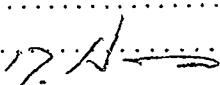
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: .. WANG Junkuan ..

Residence: .. Lonay, Switzerland ..  
 (city and either US state, if applicable, or country)

Mailing Address: .. Chemin des Abbesses 2B, CH-1027 Lonay, Switzerland ..

Citizenship: .. Switzerland ..

Inventor's Signature: ..  ..  
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

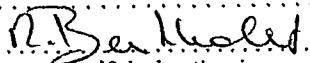
Date: .. 2005-05-03 ..  
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Name: .. BERTHOLET Raymond ..

Residence: .. Blonay, Switzerland ..  
 (city and either US state, if applicable, or country)

Mailing Address: .. Ch. Vers-chez-Cochard 11, CH-1807 Blonay, Switzerland ..

Citizenship: .. Switzerland ..

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**Continuation of Box No. VIII (i) to (v) DECLARATION**

If the space is insufficient in any of Boxes Nos. VIII (i) to (v) to furnish all the information, including in the case where more than two inventors are to be named in Box No. VIII (iv), in such case, write "Continuation of Box No. VIII ..." (indicate the item number of the Box) and furnish the information in the same manner as required for the purposes of the Box in which the space was insufficient. If additional space is needed in respect of two or more declarations, a separate continuation box must be used for each such declaration. If this Box is not used, this sheet should not be included in the request.

**Continuation of Box No. VIII(iv):**

Name: WATZKE Heribert Johann

Residence: Pully, Switzerland

LAUSANNE (40-)

Mailing address: Chemin de la Fauvette 30E, CH-1012 Lausanne, Switzerland

Citizenship: Austrian

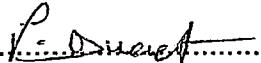
Inventor's signature:  Date: 03-05-2005

Name: DUCRET Pierre

Résidence: St-Saphorin-sur-Monges

Mailing address: Chemin du Cornu, CH-1113 St-Saphorin-sur-Morges, Switzerland

Citizenship: Switzerland

Inventor's signature:  Date: 03.05.2005

Name: BUCHELI Peter

Residence: Shanghai, China

Mailing address: Building 4, Apartment 2D, Shanghai Racquets Club, Jin Feng Road, Minhang District, Shanghai 201107, China

Citizenship: Switzerland

Inventor's signature: ..... Date: .....

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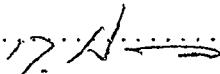
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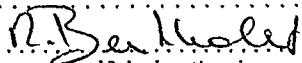
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Inventor's signature: ..... Date: .....

Name: BUCHELI Peter

Residence: Shanghai, China

Mailing address: Building 4, Apartment 2D, Shanghai Racquets Club, Jin Feng Road, Minhang District, Shanghai 201107, China

Citizenship: Switzerland

Inventor's signature: ..... Date: ..... 5 May 2005

## POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby appoint:

 Practitioners associated with the Customer Number:

29157

OR

 Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

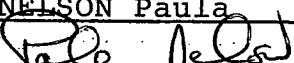
## Assignee Name and Address:

Nestec S.A.  
Avenue Nestlé 55  
CH-1800 Vevey  
Switzerland

**A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.**

## SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Name	NELSON Paula		
Signature		Date	12 JAN. 2005
Title	Vice President	Telephone	

SEND TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.